a). Amendments to the Claims

Claims 1-22 (Cancelled).

23. (Currently Amended) A process for producing isoprenoid compounds comprising the steps of:

selecting DNA encoding a protein ~~having activity to catalyze a reaction to produce 2-C-methyl-D-erythritol 4-phosphate from 1-deoxy-D-xylulose 5-phosphate~~ comprising an amino acid sequence of SEQ ID NO:5 or 30;

integrating the DNA into a vector;

introducing the vector containing the DNA into a prokaryotic host cell to produce a transformant;

culturing the transformant in a medium;

allowing the transformant to produce and accumulate isoprenoid compounds; and

recovering the isoprenoid compounds.

24. (Currently Amended) A process for producing isoprenoid compounds comprising the steps of:

selecting a vector containing DNA encoding a protein ~~having activity to catalyze a reaction to produce 2-C-methyl-D-erythritol 4-phosphate from 1-deoxy-D-xylulose 5-phosphate~~ comprising an amino acid sequence of SEQ ID NO:5 or 30;

introducing the vector into a prokaryotic host cell to produce a

transformant;

culturing the transformant in a medium;

allowing the transformant to produce and accumulate isoprenoid compounds; and

recovering the isoprenoid compounds.

25. (Currently Amended) A process for producing isoprenoid compounds comprising the steps of:

selecting a prokaryotic transformant harboring a vector containing DNA encoding a protein ~~having activity to catalyze a reaction to produce 2-C-methyl-D-erythritol 4-phosphate from 1-deoxy-D-xylulose 5-phosphate~~ comprising an amino acid sequence of SEQ ID NO:5 or 30;

culturing the transformant in a medium;

allowing the transformant to produce and accumulate isoprenoid compounds; and

recovering the isoprenoid compounds.

26. (Cancelled)

27. (Cancelled)

28. (Currently Amended) The process according to any one of claims 23-25 ~~claim 27~~, wherein the DNA comprises ~~has~~ a nucleotide sequence of SEQ ID NO:10

or 31.

29. (Previously Presented) The process according to any one of claims 23-25, wherein the isoprenoid compound is selected from the group consisting of ubiquinone, vitamin K_2 and carotenoids.

30. (Cancelled)

31. (Cancelled)

32. (Previously Presented) The process according to claim 28, wherein the isoprenoid compound is selected from the group consisting of ubiquinone, vitamin K_2 and carotenoids.

33. (New) A process for producing isoprenoid compounds comprising the steps of:

selecting DNA that hybridizes with a nucleotide sequence consisting of SEQ ID NO:10 or 31 in the presence of 0.7 to 1.0 mol/l NaCl at 65°C, followed by washing in a 0.1 to 2-fold SSC solution at 65°C and encoding a protein having activity to catalyze a reaction to produce 2-C-methyl-D-erythritol 4-phosphate from 1-deoxy-D-xylulose 5-phosphate;

integrating the DNA into a vector;

introducing the vector containing the DNA into a prokaryotic host

cell to produce a transformant;

culturing the transformant in a medium;

allowing the transformant to produce and accumulate isoprenoid compounds; and

recovering the isoprenoid compounds.

34. (New) A process for producing isoprenoid compounds comprising the steps of:

selecting a vector containing DNA that hybridizes with a nucleotide sequence consisting of SEQ ID NO:10 or 31 in the presence of 0.7 to 1.0 mol/l NaCl at 65°C, followed by washing in a 0.1 to 2-fold SSC solution at 65°C and encoding a protein having activity to catalyze a reaction to produce 2-C-methyl-D-erythritol 4-phosphate from 1-deoxy-D-xylulose 5-phosphate;

introducing the vector into a prokaryotic host cell to produce a transformant;

culturing the transformant in a medium;

allowing the transformant to produce and accumulate isoprenoid compounds; and

recovering the isoprenoid compounds.

35. (New) A process for producing isoprenoid compounds comprising the steps of:

selecting a prokaryotic transformant harboring a vector containing

DNA that hybridizes with a nucleotide sequence consisting of SEQ ID NO:10 or 31 in the presence of 0.7 to 1.0 mol/l NaCl at 65°C, followed by washing in a 0.1 to 2-fold SSC solution at 65°C and encoding a protein having activity to catalyze a reaction to produce 2-C-methyl-D-erythritol 4-phosphate from 1-deoxy-D-xylulose 5-phosphate;

culturing the transformant in a medium;

allowing the transformant to produce and accumulate isoprenoid compounds; and

recovering the isoprenoid compounds.

36. (New) The process according to any one of claims 33-35, wherein the isoprenoid compound is selected from the group consisting of ubiquinone, vitamin K_2 and carotenoids.